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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,312	04/05/2001	Hiroshi Wanibuchi	83020.0002	6572

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EXAMINER

TRAN, LY T

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 12/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,312

Applicant(s)

WANIBUCHI ET AL.

Examiner

Ly T TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 6-23, 25-42, 24/4, 6-23, 25-34 is/are allowed.
- 6) ☒ Claim(s) 5, 2, 3, 24/2, 3, 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 5 and 24/5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al (USPN 5,896,143) in view of Ishikawa et al. USPN (5,503,287).

With respect to claim 5, Matsui et al discloses a cleaning device for cleaning a nozzle surface of an ink jet head comprising:

- A first wiping member for wiping the nozzle surface (Fig.15: element 18) because the wiper 18 moves up and down so it's inherently has a support member to support the wiper and some kind of mechanism to move the wiper.
- A flat plate form second wiping member (Fig.15: element 27) arranged within a moving path of the first wiping member so as to contact with the first wiping member (Fig.1: element 34);
- A carriage (fig.15: element 2) carrying the ink jet head for reciprocally moving along a second moving path through a printing region (element 28) and a cleaning position where the head opposes to the first wiping member, a direction of the second moving path being different from that of

the first moving path (in Fig.15, the carriage moves back and forth from left to right, the wiper 18 moves up and down, therefore the second direction is different from the first direction)

- Wherein a tip end surface of the first wiping member first comes in substantially perpendicular contact with a side surface of the second wiping member and then moves across the side surface (see figure 15)

With respect to claim 24/ 5, Matsui discloses:

- An ink jet head (Fig.15: element 2)
- A cleaning device (Element 18) which is arranged offsetting from a printing region (element 28) of the ink jet head.

However, Matsui fails to teach the second wiper is formed of elastic.

Matsui discloses the claimed invention except that the wiper is formed of absorbent instead of elastic. Ishikawa et al. shows that absorbent and elastic is an equivalent structure known in the art (Column 2: line 28-29). Therefore, because absorbent and elastic were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute elastic for absorbent for the same purpose such as to absorbing and removing the unnecessary ink.

2. Claims 5, 2 and 24/5,2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (USPN 5,798,775) in view of Ishikawa et al. USPN (5,503,287).

2. Claims 5, 2 and 24/5,2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (USPN 5,798,775) in view of Ishikawa et al. USPN (5,503,287).

With respect to claim 5, Takahashi discloses a cleaning device for cleaning a nozzle surface of an ink jet head comprising:

- A first wiping member for wiping the nozzle surface (Fig.5: element 401);
- A cleaner lever for supporting the first wiping member (Fig.5: element 410);
- A lever driving mechanism moving the first wiping member between a retracted position located away from the nozzle surface and a wiping position for wiping the nozzle surface (Column 11: line 10-57);
- A flat plate form second wiping member arranged within a moving path of the first wiping member so as to contact with the first wiping member (Fig.5: element 104);
- A carriage (element 2) carrying the ink jet head for reciprocally moving along a second moving path through a printing region and a cleaning position where the head opposes to the first wiping member, a direction of the second moving path being different from that of the first moving path (in Fig.7A, the carriage moves back and forth from left to right, the wiper 401 moves up and down, therefore the second direction is different from the first direction)
-

- Wherein a tip end surface of the first wiping member first comes in substantially perpendicular contact with a side surface of the second wiping member and then moves across the side surface (Fig.7A: element 104, 401)

With respect to claim 2, Takahashi et al discloses:

- The first wiping member (Fig.5: element 401) is designed to move between the retracted position and wiping position located above retracted position, by moving a cleaner lever (Fig.5: element 410)
- The second wiping member is arranged above the retracted position and below the wiping position (Fig.5: element 104)

With respect to claim 24/ 2, 5, Sasaki Takahashi et al discloses:

- An ink jet head (Fig.7A: element 1)
- A cleaning device which is arranged offsetting from a printing region of the ink jet head (Fig.5: element 401 is offset from the print head).

However, Takahashi fails to teach the second wiper is formed of elastic.

Takahashi discloses the claimed invention except that the wiper is formed of absorbent instead of elastic. Ishikawa et al. shows that absorbent and elastic is an equivalent structure known in the art. Therefore, because absorbent and elastic were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute elastic for absorbent for the same purpose such as to absorbing and removing the unnecessary ink.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al (USPN 5,896,143) in view of Ishikawa et al. USPN (5,503,287) as applied to claim 5 above, further in view of Sasaki Tetsu (JP04-328521).

The combination of Matsui and Ishikawa fails to teach the third wiper which is able to contact the second wiper.

Sasaki Tetsu teaches the third wiper which is able to contact the second wiper (Fig.1: element 28).

It would have been obvious to one having ordinary skill in the art at the time the invention was made as modify to have the third wiper as taught by Sasaki. The motivation of doing so is to clean the wiper.

Allowable Subject Matter

4. Claims 4, 6-23, 25-42 and 24/4, 6-23, 25-34 are allowed.

The primary reason for the allowance of claims 4, 25-34 and 24/4, 25-34 is the inclusion of an apparatus of a cleaning device comprising a combination of a first supporting member, second supporting member wherein a length of a portion of the second wiping member projecting from the first supporting member is greater than a length of a portion of the second wiping member projecting from the second supporting member. It is this structure found in each of the claims, as it is claimed in the combination, that has not been found, taught, or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 6-13 and 24/6-13 is the inclusion of an apparatus of a cleaning device comprising a combination of a lever driving mechanism includes a friction type clutch lever which is frictionally engaged with one of gears constituting the gear train by means of a predetermined biasing force and is arranged coaxially with the gear and a tooth portion formed on the clutch lever which engages with the gear train when the clutch lever is in a predetermined rotational angular range. It is this structure found in each of the claims, as it is claimed in the combination, that has not been found, taught, or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 14-20 and 24/14-20 is the inclusion of an apparatus of a cleaning device comprising a combination of a lever driving mechanism includes a friction type clutch lever which is frictionally engaged with one of gears constituting the gear train by means of a predetermined biasing force and is arranged coaxially with the gear and a tooth portion formed on the clutch lever which engages with the gear train when the clutch lever is in a predetermined rotational angular range. It is this structure found in each of the claims, as it is claimed in the combination, that has not been found, taught, or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 21-23 and 24/21-23 is the inclusion of a combination of apparatus of a cleaning device comprising a lock lever for locking the ink jet head at a predetermined position and a second cam mechanism from converting rotation of clutch lever into movement of the lock lever. It is this structure

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found in each of the claims, as it is claimed in the combination, that has not been found, taught, or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 35-42 is the inclusion of a cleaning device for cleaning a nozzle surface of an ink jet head comprising combination of a lever driving mechanism includes a friction type clutch lever which is frictionally engaged with one of gears constituting the gear train by means of a predetermined biasing force and is arranged coaxially with the gear and a tooth portion formed on the clutch lever which engages with the gear train when the clutch lever is in a predetermined rotational angular range. It is this structure found in each of the claims, as it is claimed in the combination, that has not been found, taught, or suggested by the prior art of record which makes these claims allowable over the prior art.

Response to Arguments

5. Applicant's arguments with respect to claims 5, 2 and 3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 703-308-0752. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 703-308-4896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0967.



November 20, 2003



Stephen D. Meier
Primary Examiner